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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/800,391

03/12/2004

Claude Decroix

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08/23/2006

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EXAMINER

WUJCIAK, ALFRED J

ART UNIT

PAPER NUMBER

3632

DATE MAILED: 08/23/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/800,391

Applicant(s)

DECROIX, CLAUDE

Examiner

Alfred Joseph Wujciak III

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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This is the final Office Action for the serial number 10/800,391, A CONNECTION ASSEMBLY FOR GRID STRUCTURE, filed on March 12, 2004.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent # 6,688,803 to Marie Van Giezen et al. and in view of US Patent # 4,321,068 to Cottrell et al.

With respect to claims 1-3 and 6-14, Maria Van Giezen et al. '803 discloses a connection assembly (figures 4, 5, 10) comprising a plurality of first (1) and second (2) elongate elements forming a grid structure connected to one another at an intersection with a bond or weld (columns 2 and 4, lines 13-22 and 65-67, respectively), the first element (1) comprising a tube and defining at least one receiving opening/aperture (3) through which the second element is passed, wherein the first element defines two aligned receiving openings (3, both sides) through which the second element is passed; wherein the inner surface of the first element is provided with at least one ridge (5) the apex of which lies close to or contacts the outer surface of the second element at a position, wherein the first and second elements are connected to one another at one or more positions in the region of their intersection (see figure 5), wherein the position is formed where the outer surface of the second element lies opposed to the inner surface of the

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first element at the apex of the ridge, wherein the first and second elements are made of metal and connected to one another at the positions via welding (column 4, lines 65-67), wherein the first and second elements are alternatively made of plastics material and are connected at the one or more positions by melt bonding (column 2, lines 18-22, "fusion bonding"), wherein the first and second elements are tubular with substantially circular cross sections, wherein the diameter of the second element is smaller by between 20% to 30% than the diameter of the first element (column 4, lines 8-12).

However, Maria Van Giezen et al. '803 fails to specifically teach the portions of the first element defining the peripheries of both of the receiving openings protruding inwards into the tube to define two collars surrounding the second element; wherein an inner dimension of each collar is dimensioned with respect to an outer dimension of the second element so as to provide a frictional fit of the two elements.

Nevertheless, Cottrell et al. '068 discloses a connection assembly (figures 1,2) comprising first and second elongate elements (11,12) connected to one another at an intersection, the first element comprising a tube and defining at least one receiving opening (15) through which the second element is passed, and characterized in that the portion of the first element defining the periphery of the receiving opening protrudes inwards into the tube to define a collar (near 15, see figure 2) surrounding the second element; wherein the first element defines two aligned receiving openings (see figure 2) through which the second element is passed, the portions of the first element defining the peripheries of both of the receiving openings protruding inwards into the tube to define two collars surrounding the second elements; wherein an inner

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dimension of each collar is dimensioned with respect to an outer dimension of the second element so as to provide a frictional fit of the two elements (see figure 2).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to have modified the periphery of each receiving opening of Maria Van Giezen et al. '803 to protrude inwards into the tube to define a collar surrounding the second element so as to provide a frictional fit of the two elements in order to increase the area around the openings engaged by the second element hence providing for a more structurally sound grid structure.

Further, regarding claims 4 and 5, the diameter of the aperture is inherently less than the diameter of the second element (see column 1, line 66 through column 2, line 2 of Cottrell et al. '068, where the second element 12 is inserted into the receiving opening, it takes advantage of the natural spring formed by the material, hence before the second element 12 is inserted into the receiving opening, the diameter of the receiving opening must be less than that of the second element 12), wherein the diameter of the aperture is equal to that of the opening, wherein the openings/apertures could inherently be drilled or punched (it is noted that the "drilling," and "folding" of claims 4 and 5 are merely functional recitations since independent claim 1 is structural claim and thus all claimed dependent thereon are also considered structural claims).

Response to Arguments

Applicant's arguments filed 5/26/06 have been fully considered but they are not persuasive.

With respect to applicant's argument on page 2, stating that "The prior art, however, does not teach a "more structurally sound grid structure," and "(I)n fact, the stated objectives of Cottrell, et al are to decrease the expense of production of mast discharge electrodes and to avoid weakening of the mast discharge electrodes' wires due to welding. Column 1, Line 68- Column 2, Line 2. However, this increase in contact area is only taught to be beneficial in that it provides a stronger frictional attachment thereby eliminating the need for welding the elements together." The examiner disagrees with the applicant regarding the statement of "more structurally sound grid structure" because in claim 4, lines 7-9 of Cottrell et al.'s invention stating that "fixing the cross members in the apertures in the mast by directly biting the material of the mast around said apertures onto the cross members," this clearly explains that the cross members and the mast are connected by friction therefore this invention provides the "structurally sound" connection for grid structure.

The applicant argues that the structure in Van Giezen's invention are secured by welding, which would not weaken the structure. The examiner disagrees with the applicant because any kind of source such as extensive heating or some kind of impact force that would break the bond of welding, therefore it would weak the structure. Adding Cottrell et al.'s collar (15) provides additional support for securing Van Giezen's structure together due to unexpected failure from welding.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge

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generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, Van Giezen and Cottrell both teach tubes connection forming in grid structure. Since Van Giezen fails to teach collar and Cottrell contains collar, which is obvious to have added collar from Cottrell to Van Giezen to provide additional support in case failure from welding in Van Giezen's invention that would break the connection between the two tubes.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alfred Joseph Wujciak III whose telephone number is (571) 272-6827. The examiner can normally be reached on 8am-4:30pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Carl Friedman can be reached on (571) 272-6815. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alfred Joseph Wujciak III
Primary Examiner
Art Unit 3632



8/18/06